mediastinum it was thought best to remove it by two stages. In doing this the general plan outlined by Lahey[4] was followed. At the first stage, the sac was anchored in the upper angle of the wound. Iodoform packing was inserted below. When the margins of the wound came together, about one inch of the pouch projected beyond the surface level of the skin. At the end of ten days, during which time the wound granulated in, the second stage of the operation was done under evipal anesthesia, and supplemented by a small amount of ether by inhalation near the end of the procedure. During the period between the stages of the operation the patient was fed by a small naso-stomach tube. At this second stage operation, the wound was opened at its upper angle and the sac isolated. To the writer the sac wall seemed thinner than at the first operation. Before the first-stage operation the pouch, over a long period of time, was under considerable distention and irritation by food. The period of rest, through the use of the naso-stomach tube, evidently allowed edema in the pouch to subside. The sac was ligated and excised at its neck, and interrupted sutures through remnants of fascia overlapped the pedicle. A small iodoform pack was inserted into the wound, and it was allowed to heal by granulation. Use of the naso-stomach tube was continued for five days. A fistulous tract resulted in the wound, from which small amounts of fluid and food were expelled with swallowing; but this tract completely closed by the tenth day following the operation.

There was complete relief of symptoms by the operation. The patient ate ravenously and gained ten pounds in two weeks. Difficult swallowing, cough, and dyspnea completely disappeared.

COMMENT

The writer has described a large pharyngo-esophageal diverticulum with marked symptoms. It was operated on with dramatic relief of symptoms. According to the recorded cases of these diverticula reported, the great majority protrude to the left, but this one protruded to the right. The large size of the sac facilitated its isolation. The sac was more thick-walled than might be expected. Microscopic study showed considerable muscle in its wall, which doubtlessly was an hypertrophy due to the long duration of food irritation and recurrent emptying. The sac extended well into the upper mediastinum, and this prompted a two-stage operation as a safeguard against mediastinal infection. There was not primary union following excision of the sac, but the fistulous tract healed without undue delay.

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GONORRHEAL TENOSYNOVITIS

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IT can be assumed that gonorrheal infections of tendon sheaths are comparatively rare, as no mention of this complication is made in any of several standards works on urology consulted.

An occasional report appears in the literature; one case by Hayward,[1] and another by Murray and Morgan,[2] in which incision over affected tendon was productive of pus containing Gram-negative intracellular diplococci, morphologically N. gonorrhea.

Gonorrheal tenosynovitis of the long head of the biceps was diagnosed by Zadek[3] by means of stained sections of tissue, removed by operation.

There is no doubt that this complication has been observed by others and not deemed sufficiently important to report.

REPORT OF CASE

F. J. M., Corporal United States Marine Corps, white, male, age 27.

The patient was exposed to venereal disease in San Diego, California, on January 5, 1936, and took prophylaxis aboard his ship about four hours later. On January 12, 1936, he noticed burning and frequency of urination, followed in a few hours by a creamy urethral discharge. Coincident with appearance of the discharge, the patient bruised the dorsum of his right foot. When he reported to the Sick Bay he complained of marked pain in the foot, in addition to a urethral discharge. On admission, January 13, 1936, he presented the following picture: Temperature, 102 degrees Fahrenheit; pulse, 100; R, 18; urine normal; white blood cells, 19,500; bands, 13 per cent; segs., 50 per cent; lymphocytes, 27 per cent; mononuclears, 10 per cent. Smear of urethral discharge revealed many pus cells, many extracellular and few intracellular Gram-negative diplococci, morphologically, Neisseria gonorrhoeæ. Dorsum of right foot was swollen, tender, and erythematous. There was a profuse, creamy urethral discharge.

The patient was put to bed with foot elevated, and application of constant external heat. Anterior urethral irrigations with 1 to 10,000 potassium permanganate solution were begun.

Temperature for the first six days following admission varied from 99 to 102 degrees Fahrenheit, and the swelling and erythema over the dorsum of the foot gradually increased.

On January 19, 1936, a fluctuating area over the first of the four tendons of the extensor digitorum longus muscle was incised and yielded about 15 cubic centimeters of serosanguinous pus. Smear of the pus obtained showed many pus cells, and intracellular Gram-negative diplococci, morphologically Neisseria gonorrhoeæ.

A drain was inserted and radiotherapy treatments were begun and given twice daily, using two large, well-padded electrodes and 2,500 M. A. (resonance control) frequency, for twenty minutes. Following the second radiotherapy treatment (using the De Forrest laboratories' 250 watt 18 meter, 16.3 kilocycles apparatus), most of the pain disappeared.

From the day of admission until healing of the foot was complete, the white blood cell count averaged about 20,000 per cubic millimeter, and there was an increase in the number of segmented leukocytes. Normal total and differential white blood counts were obtained from the time healing was complete until he was discharged. As the drainage from the incision lessened, the daily afternoon temperature gradually became lower and reached normal ten days after incision, where it remained until discharge to duty.

Examination two weeks after discharge: found the urine clear, prostate and adnexa normal, no urethral stricture present, and normal motion present in the foot.

CONCLUSION

1. An unusual case of gonorrheal infection of a tendon sheath is presented.

2. Treatment with high frequency current appeared to limit destruction, relieve pain and facilitate healing.

3. Tendon injuries during the initial stages of gonorrhea may possibly precipitate gonorrheal tenosynovitis.

Medical Corps, U. S. Navy, U. S. S. Ranger.

4 Lahey, Frank H.: The Surgical Management of Pharyngo-Esophageal Diverticulum, Surg., Gynec., and Obst., 51:227-236 (Aug.), 1930.

1 Hayward, H.: Gonorrhea of Tendon Sheaths, Medizinische Klinik, 27:1683, 1931.

2 Murray, D. W. G., and Morgan, J. R. E.: Gonorrheal Tenosynovitis of the Hand, Canad. M. A. J., 32:374 (April), 1935.

3 Zadek, Isadore: Gonorrheal Tenosynovitis of the Long Head of the Biceps Brachii, J. A. M. A., 104:2176 (June 15), 1935.